

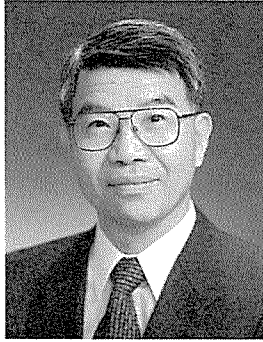


## 著作目録（深瀬哲郎）

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# 著 作 目 録

## A. 半金属および半導体の低温電子物性に関する研究

(Studies on electronic properties of semimetals and semiconductors at low temperatures)

1. Resonant Oscillations of Ultrasonic Attenuation of Antimony in a Weak Magnetic Field  
T. Fukase and T. Fukuroi  
J. Phys. Soc. Jpn. **21** (1966) 814-815.
2. Magneto-Acoustic Resonances in Antimony  
T. Fukase and T. Fukuroi  
J. Phys. Soc. Jpn. **21** (1966) Suppl. 751-754.
3. Giant Quantum Oscillations of Magneto-Acoustic Attenuation in Arsenic  
T. Fukase and T. Fukuroi  
J. Phys. Soc. Jpn. **23** (1967) 650.
4. Giant Quantum Oscillations in the Magneto-Acoustic Attenuation and the Spin Splitting of Arsenic  
T. Fukase  
J. Phys. Soc. Jpn. **26** (1969) 964-974.
5. On the Electronic Structure of Bismuth and Its Dilute Alloys  
T. Fukuroi, Y. Muto, Y. Saito, K. Tanaka and T. Fukase  
Sci. Rep. Res. Insts. Tohoku Univ., **A18** (1966) Suppl. 418-439.
6. The de Hass-van Alphen Effect of *n*-Type  $\text{Cd}_3\text{As}_2$   
H. Doi, T. Fukuroi, T. Fukase, Y. Muto and K. Tanaka  
Sci. Rep. Res. Insts. Tohoku Univ., **A20** (1969) 190-200.
7. Semiconductor-Metal Transision in Te by Laser Irradiation  
Y. Nishina, T. Nakanomyo and T. Fukase  
Proc. 10th Int. Conf. on Physics of Semiconductors, (1970) p. 493-499.
8. Nolinear Photomagnetolectric (PME) Effect in Bi by Laser Irradiation  
T. Fukase and Y. Nishina  
Proc. 12th Int. Conf. on Low Temp. Physics, (1970) p. 533-534.
9. Nonlinear PME Effect and High-Frequency Singnal Generation in Bi  
T. Fukase, T. Nakanomyo and Y. Nishina  
Proc. 3rd. Conf. on Solid State Devices, (Tokyo, 1971), *Oyo Buturi* **10** (1972) p. 95-101.
10. Giant Quantum Attenuation of Sound in Bismuth below 1 K  
T. Fukase, S. Morita, K. Kajimura, T. Nakanomyo, Y. Koike and N. Mikoshiba  
J. Phys. Soc. Jpn., **49** (1980) Suppl. A, 715-718.
11. Anomalous Frequency Dependence of Giant Quantum Attenuation in Bismuth below 1 K  
T. Fukase, S. Morita, K. Kajimura, T. Nakanomyo and N. Mikoshiba  
Solid State Commun. **35** (1980) 719-721.

12. Electrical Properties of Black Phosphorus Single Crystals Prepared by Bis-muth-Flux Method  
M. Baba, F. Izumida, A. Morita, Y. Koike and T. Fukase  
Jpn. J. Appl. Phys., **30** (1991) 1753-1758.
13. Hall Effect and 2D Electron Gas in Black Phosphorous  
M. Baba, Y. Nakamura, Y. Takeda, K. Shibata, A. Morita, Y. Koike and T. Fukase  
J. Phys. Condens. Matter., **4** (1992) 1535-1544.
14. Magnetic Field Dependence of the Device-Width-Dependent Breakdown Current in the Quantum Hall Effect  
S. Kawaji, K. Hirakawa, M. Nagata, T. Okamoto, T. Fukase and T. Goto  
Surf. Sci., **305** (1994) 161-165.
15. Breakdown of the Quantum Hall Effect in GaAs/AlGaAs Heterostructures due to Current  
S. Kawaji, K. Hirakawa, M. Nagata, T. Okamoto, T. Fukase and T. Goto  
J. Phys. Soc. Jpn., **63** (1994) 2303-2313.
16. Breakdown of the Integer Quantum Hall Effect Studied by Corbino Discs  
M. Yokoi, T. Okamoto, S. Kawaji, T. Goto and T. Fukase  
Physica B, **249-251** (1998) 93-96.
17. Electron Correlations on the Verge of Mott Transition in  $\text{La}_{1-x}\text{Sr}_x\text{TiO}_3$  by  $^{47/49}\text{Ti}$  and  $^{139}\text{La}$  Nuclear Magnetic Resonance  
Y. Furukawa, I. Okamura, K. Kumagai, T. Goto, T. Fukase, Y. Taguchi and Y. Tokura  
Phys. Rev. B, **59** (1999) 10550-10558.

B. アンダーソン局在に関する研究  
(Studies on Anderson localization)

1. Anomalous Temperature Dependence of the Resistivities in n-InSb below 100 mK  
S. Morita, T. Fukase, Y. Isawa, S. Ishida, Y. Takeuti and N. Mikoshiba  
J. Phys. Soc. Jpn., **49** (1980) Suppl. A, 379-382.
2. Metallic Impurity Conduction and Metal-Non-Metal Transition in n-InSb at Low Temperature  
S. Morita, T. Fukase, Y. Isawa, S. Ishida, Y. Koike, Y. Takeuti and N. Mikoshiba  
Physica B&C, **107B+C** (1981) 421-422.
3. Temperature and Magnetic Field Dependences of Resistivity in Metallic n-InSb below 100 mK  
S. Morita, Y. Isawa, T. Fukase, S. Ishida, Y. Koike, Y. Takeuti and N. Mikoshiba  
Phys. Rev. B, **25** (1982) 5570-5573.
4. Log T Dependence of Resistivity and Negative Magnetoresistance in the Layered Compound  $\text{TiTe}_2$   
Y. Koike, M. Okamura, T. Nakanomyo and T. Fukase  
J. Phys. Soc. Jpn., **52** (1983) 597-604.

5. Anomalous Magnetoresistance of Speer Carbon Resistors at Low Temperatures  
Y. Koike, S. Morita, T. Fukase, N. Kobayashi, M. Okamura and N. Mikoshiba  
J. Phys. Soc. Jpn., **52** (1983) 1111-1114.
6.  $T^{1/2}$  Dependence of Resistivity and Anomalous Magnetoresistance in Granular Bismuth  
Y. Koike, M. Okamura and T. Fukase  
J. Phys. Soc. Jpn., **52** (1983) 1115-1118.
7. Determination of Physical Parameters of the Anderson Localization in Metallic n-InSb  
S. Morita, N. Mikoshiba, Y. Koike, T. Fukase and S. Ishida  
J. Phys. Soc. Jpn., **53** (1984) 324-330.
8. Effects of the Anderson Localization on Magnetoconductivity in Metallic n-GaAs  
S. Morita, N. Mikoshiba, Y. Koike, T. Fukase, S. Ishida and M. Kitagawa  
J. Phys. Soc. Jpn., **53** (1984) 40-43.
9. Temperature Dependence of the Inelastic Scattering Time in Metallic n-GaAs  
S. Morita, N. Mikoshiba, Y. Koike, T. Fukase, M. Kitagawa and S. Ishida  
J. Phys. Soc. Jpn., **53** (1984) 2185-2188.
10. Anomalous Electrical Transport in Graphite at Very Low Temperatures  
Y. Koike, S. Morita, T. Nakanomyo and T. Fukase  
Proceedings of the 17th International Conference on Low Temperature Physics, LT-17 (1984) p. 905-906.
11. Electrical Transport in Three-Dimensional Bismuth Films at Low Temperatures  
Y. Koike, M. Okamura and T. Fukase  
Proc. of the Int. Conf. on Localization, Interaction, and Transport Phenomena in Impure Metals, (Braunschweig, 1984) p. 59-62.
12. Carrier Concentration Dependence of Physical Parameters of the Anderson Localization in Metallic n-GaAs and n-InSb  
S. Morita, N. Mikoshiba, Y. Koike, T. Fukase, M. Kitagawa and S. Ishida  
Proc. of the Int. Conf. on Localization, Interaction, and Transport Phenomena in Impure Metals, (Braunschweig, 1984) p. 258-261.
13. Inelastic Scattering Time in Metallic n-GaAs  
S. Morita, N. Mikoshiba, Y. Koike, T. Fukase, M. Kitagawa and S. Ishida  
Proc. of the Int. Conf. on Localization, Interaction, and Transport Phenomena in Impure Metals, (Braunschweig, 1984) p. 344-347.
14. Weak Localization in Graphite  
Y. Koike, S. Morita, T. Nakanomyo and T. Fukase  
J. Phys. Soc. Jpn., **54** (1985) 713-724.
15. Effects of the Anderson Localization on Magnetoconductivity in Metallic nInSb and n-GaAs  
S. Morita, N. Mikoshiba, Y. Koike, T. Fukase, S. Ishida and M. Kitagawa  
Solid State Electron., **28** (1985) 113-119.

16. Weak and Strong Localization in Three-Dimensional Granular Bismuth Film  
Y. Koike, M. Okamura and T. Fukase  
J. Phys. Soc. Jpn., **54** (1985) 3018-3028.
17. Low-Temperatures Characteristics of Matsushita Carbon Resistors With and without Magnetic Fields  
Y. Koike, T. Fukase, S. Morita, M. Okamura and N. Mikoshiba  
Cryogenics, **25** (1985) 499-502.
18. Anomalous Electrical Conduction in Carbon Fibers at Low Temperatures  
Y. Koike and T. Fukase  
Solid State Commun., **62** (1987) 499-502.
19. Fractional Quantum Hall Effect at  $\nu = 1/7$   
J. Wakabayashi, A. Fukano, S. Kawaji, K. Hirakawa, H. Sakaki, Y. Koike and T. Fukase  
J. Phys. Soc. Jpn., **57** (1988) 3678-3681.
20. Experiments on Localization in Landau Subbands with the Landau Quantum Number 0 and 1 of Si Inversion Layers  
J. Wakabayashi, A. Fukano, S. Kawaji, Y. Koike and T. Fukase  
Surf. Sci., **229** (1990) 60-62.
21. Two-Dimensional Anderson Localization in Black Phosphorous Crystals Prepared by Bismuth-Flux Method  
M. Baba, F. Izumida, Y. Takeda, K. Shibata, A. Morita, Y. Koike and T. Fukase  
J. Phys. Soc. Jpn., **60** (1991) 3777-3783.
22. Localization in Landau Subbands with the Landau Quantum Number 0 and 1 of Si-MOS Inversion Layers  
J. Wakabayashi, S. Kawaji, T. Goto, T. Fukase and Y. Koike  
J. Phys. Soc. Jpn., **61** (1992) 1691-1700.
23. Localization and Quantum Hall Effect in Two-Dimensional Systems Under Strong Magnetic Fields  
S. Kawaji, J. Wakabayashi, T. Okamoto, A. Fukano, K. Hirakawa, M. Nagata, K. Hirakawa, H. Sakaki, Y. Koike, T. Goto and T. Fukase  
Sci. Rep. Res. Insts. Tohoku Univ., **A38** (1993) 289-296.
24. Inter-Electron Coulomb Interaction and Disorder in the Activated Transport in Magnetic-Field-Induced Insulating Phase in 2D Systems  
A. Fukano, S. Kawaji, J. Wakabayashi, K. Hirakawa, H. Sakai, T. Goto, Y. Koike and T. Fukase  
11th International Conference High Magnetic Fields in the Physics of Semiconductor, (1995) P. 440-443.
25. Ground State at Low Landau Level Filling Factors in Two-Dimensional Systems of GaAs/AlGaAs Heterostructures in Strong Magnetic Fields  
S. Kawaji, A. Fukano, T. Okamoto, T. Goto and T. Fukase  
Sci. Rep. Res. Insts. Tohoku Univ., **A-42** (1996) 259-262.

C. A15型化合物超伝導体の研究  
(Studies on A15 superconductors)

1. Influence of Magnetic Fields on Sound Velocity of  $V_3Si$   
T. Fukase, K. Uema and Y. Muto  
Phys. Lett., **49A** (1974) 129-130.
2. Anomalous Behaviors of Longitudinal Ultrasound Velocity and Attenuation near  $T_c$  in  $V_3Si$  Single Crystal  
N. Toyota, T. Fukase and Y. Muto  
Proc. 14th Int. Conf. on Low Temp. Physics, (1975) p. 5-8.
3. Anomalies in the Longitudinal Ultrasonic Attenuation and the Velocity Variation in the Mixed State of a  $V_3Si$  Single Crystal  
T. Fukase, M. Tachiki, N. Toyota and Y. Muto  
Solid State Commun., **18** (1976) 505-508.
4. Internal Heating in the Mixed State of an A-15 Type  $V_3Si$  Single Crystal  
K. Akutsu, K. Noto, T. Fukase, N. Toyota and Y. Muto  
J. Phys. Soc. Jpn., **41** (1976) 1431-1432.
5. Domain Reorientation in Superconducting  $V_3Si$   
T. Fukase, N. Toyota, T. Kobayashi and Y. Muto  
Proc. 6 th Int. Conf. on Internal Friction and Ultrasonic Attenuation in Solids, (Tokyo, 1977) p. 139-143.
6. Ultrasonically Observed Hysteresis near  $T_{c2}$  in  $V_3Si$  under Strong Magnetic Field  
N. Toyota, T. Fukase, T. Kobayashi and Y. Muto  
Proc. 6 th Int. Conf. on Internal Friction and Ultrasonic Attenuation in Solids, (Tokyo, 1977) p. 145-149.
7. Structural Transformation Studied by Thermal Expansion on Single Crystals  $V_3Si$  in Normal and Superconducting States  
T. Fukase, T. Kobayashi, M. Isino, N. Toyota and Y. Muto  
J. Phys. Colloq., **39** (1978) 406-407.
8. Thermodynamic Study and Intrinsic Type II Superconductivity in the A-15 Compound  $V_3Si$   
Y. Muto, N. Toyota, K. Noto, K. Akutsu, M. Isino and T. Fukase  
J. Low Temp. Phys., **34** (1979) 617-640.
9. Low Temperature Tetragonal-Domain-Reorientation Phenomena Seen in Ultrasonic Experiments on Single Crystal  $V_3Si$   
N. Toyota, T. Fukase, M. Tachiki and Y. Muto  
Phys. Rev. B, **21** (1980) 1827-1841.
10. Uniaxial Pressure Effect on the Structural and Superconducting Transition in  $V_3Si$   
T. Kobayashi, T. Fukase, N. Toyota and Y. Muto  
Physica B&C, **107B+C** (1981) 261-262.



11. Structural Phase Transition and Precursor Phenomena in  $V_3Si$   
T. Kobayashi, T. Fukase, N. Toyota and Y. Muto  
Proc. 4 th Conf. on Superconductivity in d- and f-Band Metals, (Karlsruhe, 1982) p. 59-66.
12. AC Response of Magnetic Flux Lines near the Surface in the Mixed State of  $Nb_3Al$   
N. Toyota, F. Kogiku, T. Fukase, S. Hanada and Y. Muto  
Proc. 4th Int. Cryogenic Materials Conf., (Kobe, 1982) p. 426-429.
13. Superconductivity and Structural Parameters in  $A15 Nb_3Si$   
N. Toyota, T. Fukase, Y. Muto, H. Iwasaki and S. Endo  
Proc. 4 th Conf. on Superconductivity in d- and f-Band Metals, (Karlsruhe, 1982) p. 27-34.
14.  $A15-Nb_3Si$  Produced by High-Pressure Annerling of Amorphous Sputter Deposits  
H. Iwasaki, W. K. Wang, N. Toyota, T. Fukase, H. Fujimori, Y. Akahama and S. Endo  
Solid State Commun., **42** (1982) 381-384.
15. Crystallization Characteristics of an Amorphous  $Nb_{81}Si_{19}$  Alloy under High Pressure and Formation of the  $A15$  Phase  
W. K. Wang, H. Iwasaki, C. Suryanarayana, T. Masumoto, N. Toyota, T. Fukase and F. Kogiku  
J. Mater. Sci., **17** (1982) 1523-1532.
16. Growth and Properties of  $A-15$ -type  $Nb_3Sn$  Single Crystals  
H. Takei, H. Watanabe, N. Toyota, T. Fukase and K. Kitamura  
Jpn. J. Appl. Phys., **22** (1983) 887-888.
17.  $A15-Nb_3Si$  Synthesized by High Pressure Transformation of Amorphous Phase  
H. Iwasaki, M. Okajima, S. Endo, W. K. Wang and N. Toyota  
Mat. Res. Soc. Symp. Proc. **22** (1984) 67.
18. Measurement of the Superconducting Energy Gap in Single Crystal  $V_3Si$   
S. Morita, S. Imai, S. Yamashita, N. Mikoshiba, N. Toyota, T. Fukase and T. Nakanomyo  
Proceedings of the 17th International Conference on Low Temperature Physics, LT-17 (1984) p. 601-602.
19. Magnetic Field Effect on the Martensitic Transformation Temperature in  $Nb_3Sn$   
N. Toyota, T. Itoh, M. Kataoka, T. Fukase, H. Takei and Y. Muto  
Physica B+C, **135** (1985) 364-366.
20. Low Temperature Electron Microscopy on Martensitic Transition of  $A-15$  Compounds  
T. Onozuka, N. Onishi, T. Fukase and M. Hirabayashi  
Proc. Int. Symp. on Behavior of Lattice Imperfections in Materials - In Situ Experiments with HVEM, (Osaka, 1985) p.113-116.

21. EXAFS Study on Premartensitic Phase in A-15 Compounds  
H. Sakashita, K. Kamon, H. Terauchi, N. Kamijo, H. Maeda, N. Toyota and T. Fukase  
Jpn. J. Appl. Phys., **26** (1987) Suppl.26-3, 909-910.
22. X-ray Diffuse Scattering in Premartensitic Phase of A-15 Compounds  
K. Kamigaki, H. Sakashita, H. Terauchi, N. Toyota and T. Fukase  
Jpn. J. Appl. Phys., **26** (1987) Suppl.26-3, 935-936.
23. Magnetization and Peak Effect of Several Single Crystals of  $V_3Si$   
M. Isino, T. Kobayasi, N. Toyota, T. Fukase and Y. Muto  
Phys. Rev. B, **38** (1988) 4457-4464.
24. Interference between Superconductivity and Martensitic Transition in A15 Compounds  
N. Toyota, T. Kobayasi, M. Kataoka, H.F.J. Watanabe, T. Fukase, Y. Muto and F. Takei  
J. Phys. Soc. Jpn., **57**, (1988) 3089-3101.
25. Magnetic-Field Dependence of the London Penetration Depth in Type-II Superconductor  $V_3Si$   
T. Hanaguri, Y. Iino, A. Maeda and T. Fukase  
Physica C, **246** (1995) 223-227.
26. Anomalous Peak Effect in Heavy-Fermion, Intermediate-Valence and A15 Superconductors: Evidence for a Fulde-Ferrell-Larkin-Ovchinnikov State?  
P. Gegenwart, M. Deppe, M. Koeppen, F. Kromer, M. Lang, R. Modler, M. Weiden, C. Geibel, F. Steglich, T. Fukase and N. Toyota  
Ann. Phys. (Germany), **5** (1996) 307-319.
27. Fermi Surface Study of the A15 Superconductor  $V_3Si$   
T. Terashima, C. Terakura, S. Uji, H. Aoki, J. Qualls, D. Hall, J. S. Brooks and T. Fukase  
Proc. 4 th Int. Symposium on Advanced Physical Fields, (Tallahassee, 1998) p. 215-217.
28.  $V_3Si$  Fermi Surface Study  
T. Terashima, D. Hall, J. Qualls, J.S. Brooks, C. Terakura, S. Uji, H. Aoki and T. Fukase  
Proc. of the Physical Phenomena at High Magnetic Fields-III, ed. By Z. Fisk, et al., Tallahassee, 1998, World Sci. Pub., (1999) 394-397.

#### D. 非晶質超伝導体の研究

(Studies on amorphous superconductors)

1. Electrical Properties of Amorphous Cu-Zr Alloy  
T. Murata, S. Tomizawa, T. Fukase and T. Masumoto  
Scr. Metall., **10** (1976) 181-184.

2. Flux Flow and Critical Currents in an Amorphous Superconductor  $Zr_{85}Si_{15}$   
N. Toyota, T. Fukase, A. Inoue, Y. Takahashi and T. Masumoto  
*Physica B&C*, **107B+C** (1981) 465-466.
3. Superconductivity of Zr-Si Binary Amorphous Alloys  
A. Inoue, Y. Takahashi, N. Toyota, T. Fukase and T. Masumoto  
Proc. 4th Int. Conf. on Rapidly Quenched Metals, (Sendai, 1981) p. 1221-1224.
4. Non-Equilibrium Crystalline Superconductors in Zr-Si Binary Alloys Rapidly Quenched from Melts  
A. Inoue, Y. Takahashi, N. Toyota, T. Fukase and T. Masumoto  
*J. Mater. Sci.*, **17** (1982) 2218-2226.
5. Superconducting Properties of Amorphous Zr-Ge Binary Alloys  
A. Inoue, Y. Takahashi, N. Toyota, T. Fukase and T. Masumoto  
*J. Mater. Sci.*, **17** (1982) 3299-3307.
6. Superconducting Properties of Amorphous Zr-Nb-Ge Alloys  
A. Inoue, Y. Takahashi, N. Toyota, T. Fukase and T. Masumoto  
*Trans. Jpn. Inst. Met.*, **23** (1982) 693-702.
7. Superconductivity of Zr-Nb-Si Amorphous Alloys  
A. Inoue, N. Toyota, T. Fukase, T. Masumoto and Y. Takahashi  
*J. Mater. Sci.*, **18** (1983) 114-126.
8. Upper Critical Field of Superconducting Amorphous Alloy  $Zr_{85}Si_{15}$   
N. Toyota, A. Inoue, T. Fukase and T. Masumoto  
*Sci. Rep. Res. Insts. Tohoku Univ.*, **31 A** (1983) 139-147.
9. Effect of Annealing on the Superconducting Properties of Two Amorphous Alloys:  $Nb_{70}Zr_{15}Si_{15}$  and  $Zr_{85}Si_{15}$   
A. Inoue, S. Okamoto, N. Toyota, T. Fukase, K. Matsuzaki and T. Masumoto  
*J. Mater. Sci.*, **19** (1984) 2719-2730.
10. Upper Critical Field and Related Properties of Superconducting Amorphous Alloys Zr-Si  
N. Toyota, A. Inoue, T. Fukase and T. Masumoto  
*J. Low Temp. Phys.*, **55** (1984) 393-410.
11. Electrical Resistance in Superconducting Amorphous Alloy  $Zr_{70}Ir_{30}$   
N. Toyota, A. Inoue, K. Matsuzaki, T. Fukase and T. Masumoto  
*J. Phys. Soc. Jpn.*, **53** (1984) 924-927.
12. Effect of Magnetic Iron Impurity on the Superconducting Properties of an Amorphous  $Nb_{80}Zr_{36}Si_{16}$  Alloy  
A. Inoue, S. Okamoto, N. Toyota, T. Fukase and T. Masumoto  
*J. Mater. Sci.*, **19** (1984) 3739-3745.
13. Correlation Between Structural Relaxation Enthalpy and Superconducting Properties of Amorphous  $Zr_{70}Cu_{30}$  and  $Zr_{70}Ni_{30}$  Alloys  
A. Inoue, K. Matsuzaki, N. Toyota, H.S. Chen, T. Masumoto, and T. Fukase  
*J. Mater. Sci.*, **20** (1985) 2323-2334.

14. On Empirical Rules for Bulk and Fluctuating Superconductivity in Amorphous Metals

N. Toyota, H. Adrian, A. Inoue, K. Matsuzaki, T. Fukase, K. Fukamichi, T. Masumoto, Y. Muto, R. Müller and L. Soldner  
*Physica B+C*, **135** (1985) 271-275.

E. 磁性超伝導体の研究

(Studies on magnetic superconductors)

1. Ultrasonic Attenuation in  $(\text{Er}_{1-x}\text{Ho}_x)\text{Rh}_4\text{B}_4$  near  $T_{c2}$   
 T. Fukase, S. B. Woods, N. Toyota, K. Tsunokuni, M. Isino and M. Tachiki  
*J. Magn. & Magn. Mater.*, **31-34** (1983) 499-500.
2. Ultrasonic Attenuation in  $(\text{Er}_{1-x}\text{Ho}_x)\text{Rh}_4\text{B}_4$  ( $x \leq 0.15$ ) at Low Temperature  
 T. Fukase, M. Tachiki, N. Toyota, Y. Koike and T. Nakanomyo  
 Proceedings of the 17th International Conference on Low Temperature Physics, LT-17 (1984) p. 11-12.
3. Magnetic and Superconducting Properties of the Cubic Perovskite  $\text{YRh}_3\text{B}$   
 H. Takei, N. Kobayashi, H. Yamauchi, T. Shishido and T. Fukase  
*J. Less-Common Met.*, **125** (1986), 233-237.
4. Quenched Superconductivity by Rapid Cooling down to Low Temperatures below  $T_{c2}$  in Single-Crystal  $\text{HoMo}_6\text{S}_8$   
 Y. Koike, T. Fukase, N. Kobayashi, S. Hosoya and H. Takei  
*Solid State Commun.*, **60**, (1986) 771-775.
5. Shock-Loading Effects on Superconducting and Ferromagnetic Transitions of  $\text{ErRh}_4\text{B}_4$   
 H. Takeya, H. Takei, Y. Koike, T. Fukase, T. Shishido, N. Toyota and Y. Syono  
*Jpn. J. Appl. Phys.*, **25** (1986) 1954-1955.
6. Ultrasonic Attenuation in  $\text{URu}_2\text{Si}_2$   
 T. Fukase, Y. Koike, T. Nakanomyo, Y. Siokawa, A.A. Menovsky, J.A. Mydosh and P.H. Kes  
*Jpn. J. Appl. Phys. Suppl.*, **26** (1987) Suppl.26-3, 1249-1250.
7. Metastable Superconductivity Below  $T_{c2}$  in Single-Crystal  $\text{HoMo}_6\text{S}_8$   
 Y. Koike, T. Fukase, N. Kobayashi, S. Hosoya and H. Takei  
*Physica B&C*, **148B+C** (1987) 106-112.
8. Strain Effects on Superconducting and Ferromagnetic Transitions of  $\text{ErRh}_4\text{B}_4$   
 Y. Koike, T. Fukase, H. Takeya, H. Takei, T. Shishido, N. Toyota and Y. Syono  
*Physica B&C*, **148B+C** (1987) 126-129.
9. Superconductivity and Magnetic or Structural Phase Transition in  $\text{URu}_2\text{Si}_2$ ,  $\text{HoMo}_6\text{S}_8$  and Al5 Compounds  
 T. Fukase, Y. Koike and N. Toyota  
*Jpn. J. Appl. Phys. Series 1 Superconducting Materials*, (1988) 116-119.

F. 酸化物高温超伝導体の研究  
(Studies on high- $T_c$  cuprate superconductors)

1. Growth of  $\text{YBa}_2\text{Cu}_3\text{O}_{9-\delta}$  Single Crystals from the High Temperature Solution  
S. Hayashi, H. Komatsu, T. Inoue, T. Ono, K. Sakaki, Y. Koike and T. Fukase  
*Jpn. J. Appl. Phys.*, **26** (1987) L1197-L1198.
2. Optical Properties of Polycrystalline  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$   
X. Wang, T. Nanba, M. Ikezawa, Y. Ishikawa, K. Mori, K. Kobayashi, K. Kasai, K. Sato and T. Fukase  
*Jpn. J. Appl. Phys.*, **26** (1987) L1391-L1393.
3. Possibility of Negative Exchange Interaction Effect in RE-Ba-Cu Oxides  
Y. Koike, T. Nakanomyo, T. Hanaguri, T. Nomoto and T. Fukase  
*Physica B&C*, **148B+C** (1987) 446-448.
4. Magnetic Field Effect on the Superconducting Transition in  $(\text{RE})_x\text{Ba}_{1-x}\text{CuO}_y$   
Y. Koike, T. Nakanomyo, T. Hanaguri, T. Nomoto and T. Fukase  
*Jpn. J. Appl. Phys.*, **26** (1987) L2069-L2071.
5. Growth and Very Anisotropic Upper Critical Field of Single Crystal  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_y$   
Y. Koike, T. Nakanomyo and T. Fukase  
*Jpn. J. Appl. Phys.*, **27**, (1988) L841-L843.
6. Correlation between  $T_c$  and Hole Concentration in the Cation-Substituted  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$  System  
Y. Koike, Y. Iwabuchi, S. Hosoya, N. Kobayashi and T. Fukase  
*Physica C*, **159** (1989) 105-110.
7. Ultrasonic Studies of Structural Phase Transitions and Superconductivity in  $\text{La}_{2-x}\text{Ba}_x\text{CuO}_{4-\delta}$  and  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_{4-\delta}$   
T. Fukase, T. Nomoto, T. Hanaguri, T. Goto and Y. Koike  
*Physica B*, **165-166** (1990) 1289-1290.
8. Anisotropy of Upper Critical Field in the  $(110)_l$  and  $(001)_l$  Planes for Single Crystal  $\text{La}_{1.86}\text{Sr}_{0.14}\text{CuO}_4$   
T. Hanaguri, T. Fukase, Y. Koike, I. Tanaka and H. Kojima  
*Physica B*, **165-166** (1990) 1449-1450.
9. A Low-Temperature X-Ray Diffraction Study of Structural Phase Transition in  $\text{La}_{1.86}\text{Sr}_{0.14}\text{CuO}_4$   
Y. Watanabe, T. Hanaguri, T. Fukase, I. Tanaka and H. Kojima  
*Jpn. J. Appl. Phys.*, **29** (1990) 2763-2767.
10. Structural Changes of  $\text{Bi}_{1.6}\text{Sr}_2(\text{Ca}_{1-x}\text{Y}_x)\text{Cu}_{2.2}\text{O}_x$  Ceramics with Yttrium Content Studied by Electron Diffraction and High-Resolution Electron Microscopy  
T. Onozuka, Y. Iwabuchi, T. Fukase, H. Sato and T.E. Mitchell  
*Phys. Rev. B*, **43** (1991) 13066-13072.
11. Phase Transition below  $T_c$  in  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  ( $x=0.12$ ) Observed by  $^{138}\text{La}$ -NQR  
T. Goto, T. Nomoto, T. Hanaguri, T. Shinohara, T. Sato, and T. Fukase  
*J. Phys. Soc. Jpn.*, **60** (1991) 3581-3582.

12.  $^{205}\text{Tl}$ -NMR Study on  $\text{TlBa}_2\text{CaCu}_2\text{O}_{7-\delta}$   
T. Goto, T. Shinohara, T. Sato, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
*Physica C*, **185-189** (1991) 1077-1078.
13.  $^{63/65}\text{Cu}$ -NMR Study on  $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$   
T. Goto, K. Miyagawa and T. Fukase  
*Physica C*, **185-189** (1991) 1081-1082.
14. Ultrasonic Studies in the  $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$  Single Crystal under the Magnetic Field  
T. Hanaguri, R. Toda, T. Fukase, I. Tanaka and H. Kojima  
*Physica C*, **185-189** (1991) 1395-1396.
15. NMR Study in  $\text{Tl}_2\text{Ba}_2\text{CuO}_{6-\delta}$   
T. Goto, T. Shinohara, T. Sato, T. Fukase, S. Nakajima, M. Kikuchi and Y. Syono  
Proc. 3 rd Int. Symp. on Superconductivity, (Sendai, 1991), (Springer-Verlag, Tokyo, 1992) p. 155-158.
16. Ultrasonic Studies in  $\text{La}_{2-x}(\text{Ba},\text{Sr})_x\text{CuO}_4$   
T. Hanaguri, T. Fukase, T. Goto and Y. Iwabuchi  
Springer Proceedings in Physics, 60 *The Physics and Chemistry of Oxide Superconductors*, ed. Y. Iye and H. Yasuoka, (Springer-Verlag, Tokyo, 1992) p. 217-220.
17. NMR Spectra and Relaxation of  $^{205}\text{Tl}$  in the  $\text{Tl}_2\text{Ba}_2\text{CuO}_{6-\delta}$  (2201) High- $T_c$  Superconductor  
T. Shinohara, T. Goto, T. Sato, T. Fukase, S. Nakajima, M. Kikuchi and Y. Shono  
Springer Proceedings in Physics 60 *The Physics and Chemistry of Oxide Superconductors*, ed. Y. Iye and H. Yasuoka, (Springer-Verlag, Tokyo, 1992) p. 365-366.
18.  $^{205}\text{Tl}$ -NMR Study on  $\text{TlBa}_2\text{Cu}_2\text{O}_{7-\delta}$   
T. Goto, T. Shinohara, T. Sato, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
*Jpn. J. Appl. Phys.*, Series 7, Mechanisms of Superconductivity 1992, p. 197-200.
19. Ultrasonic and NQR Studies of Structural Phase Transitions and Superconductivity in  $\text{La}_{2-x}(\text{Ba},\text{Sr})_x\text{CuO}_4$   
T. Fukase, T. Hanaguri, T. Nomoto, T. Goto, Y. Koike, T. Shinohara, T. Sato, I. Tanaka and H. Kojima  
*Jpn. J. Appl. Phys.*, Series 7, Mechanisms of Superconductivity 1992, p. 213-218.
20.  $\text{Tl}/\text{Cu}$ -NMR Study on  $\text{TlBa}_2\text{CaCu}_2\text{O}_{7-\delta}$  (Tl1212)  
T. Goto, T. Shinohara, T. Sato, S. Nakajima, M. Kikuchi, Y. Syono, K. Miyagawa and T. Fukase  
Proc. 5 th Int. Symp. on Superconductivity, (Kobe, 1992), *Advances in Superconductivity V*, ed. Y. Bando and H. Yamauchi, (Springer-Verlag, Tokyo, 1993) p. 133-136.

21. Synthesis of Electron Doped Copper Oxides Free from 4f Spins  
T. Goto, M. Fukunaga, K. Miyagawa, T. Hanaguri and T. Fukase  
Proc. 5 th Int. Symp. on Superconductivity, (Kobe, 1992) *Advances in Superconductivity V* ed. Y. Bando and H. Yamauchi, (Springer-Verlag, Tokyo, 1993) p. 267-270.
22. Upper Critical Field and Resistive Tail in High- $T_c$  Cuprates  
Y. Koike, T. Noji, Y. Saito, N. Kobayashi, T. Nakanomyo, T. Goto and T. Fukase  
Sci. Rep. Res. Insts. Tohoku Univ., **A37** (1992) 151-160.
23. Ultrasonic Studies of a Single Crystalline  $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$  in High Magnetic Field  
T. Hanaguri, T. Fukase, I. Tanaka and H. Kojima  
Sci. Rep. Res. Insts. Tohoku Univ., **A38** (1993) 362-371.
24. Elastic Properties and Anisotropic Pinning of the Flux-Line Lattice in Single-Crystalline  $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$   
T. Hanaguri, T. Fukase, I. Tanaka and H. Kojima  
Phys. Rev. B, **48** (1993) 9772-9781.
25. Elastic Anomalies in a  $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$  Single Crystal under High Magnetic Fields  
T. Hanaguri, T. Fukase, T. Suzuki, I. Tanaka and H. Kojima  
Physica B, **194-196** (1994) 1579-1580.
26. Anisotropy of the Flux Pinning in  $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$  Observed by Ultrasound  
T. Hanaguri, T. Fukase, I. Tanaka and H. Kojima  
Physica B, **194-196** (1994) 1837-1838.
27. Magnetic Phase Transition in  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  around  $x=0.115$  Studied by La-NMR  
T. Goto, S. Kazama, K. Miyagawa, M. Fukunaga and T. Fukase  
Physica B, **194-196** (1994) 2173-2174.
28.  $^{139}\text{La}$ -NMR Study on  $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$  around  $x=0.125$   
K. Miyagawa, T. Goto and T. Fukase  
Physica B, **194-196** (1994) 2175-2176.
29. Cu/Tl-NMR Study on Tl-Based Antiferromagnetic Copper Oxide  $\text{TlBa}_2\text{YCu}_2\text{O}_7$ -(Tl1212)  
T. Goto, K. Miyagawa, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
Physica B, **194-196** (1994) 2179-2180.
30. Synthesis and NMR Study of 4f-Spin-free Electron-doped Copper Oxides  
M. Fukunaga, T. Goto, K. Miyagawa and T. Fukase  
Physica B, **194-196** (1994) 2279-2280.
31. Low-Temperature Structural Phase Transition and Electronic Anomalies in  $\text{La}_{1.775}\text{R}_{0.125}\text{CuO}_4$  (R=Nd, Sm, Gd, Tb)  
T. Suzuki, M. Sera, T. Hanaguri and T. Fukase  
Phys. Rev. B, **49** (1994) 12392-12395.

32. <sup>63/65</sup>Cu/<sup>139</sup>La-NMR Study on Antiferromagnetic Ordering in High-T<sub>c</sub> Oxides La<sub>2-x</sub>Sr<sub>x</sub>CuO<sub>4</sub> (x~0.115) and La<sub>2-x</sub>Ba<sub>x</sub>CuO<sub>4</sub> (x~0.125)  
T. Goto, S. Kazama, K. Miyagawa and T. Fukase  
J. Phys. Soc. Jpn., **63** (1994) 3494-3503.
33. Transport Properties and Low Temperature Structural Phase Transitions around x=0.125 in La<sub>2-x-y</sub>RE<sub>y</sub>Sr<sub>x</sub>CuO<sub>4</sub> (RE=Nd,Sm,Gd,Tb)  
T. Suzuki, M. Sera and T. Fukase  
Physica C, **235-240** (1994) 1315-1316.
34. <sup>63/65</sup>Cu/<sup>139</sup>La-NMR Study on the Antiferromagnetic Ordering in La-Based High-T<sub>c</sub> Cuprate La<sub>2-x</sub>Sr<sub>x</sub>CuO<sub>4</sub> around x=0.115  
T. Goto, S. Kazama and T. Fukase  
Physica C, **235-240** (1994) 1661-1662.
35. Decoupling between the Antiferromagnetic Ordering and the Structural Phase Transition in Zn-doped La<sub>2-x</sub>Ba<sub>x</sub>CuO<sub>4</sub> around x=0.125  
T. Goto, K. Seki, S. Kazama, H. Koizumi and T. Fukase  
Physica C, **235-240** (1994) 1663-1664.
36. Magnetic Field Dependence of the London Penetration Depth of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>y</sub>  
A. Maeda, Y. Iino, T. Hanaguri, N. Motohira, K. Kishio and T. Fukase  
Phys. Rev. Lett., **74** (1995) 1202-1205.
37. Thermal Conductivity and Structural Instability in La- and Cu-Site-Substituted La<sub>2</sub>CuO<sub>4</sub>  
M. Sera, M. Maki, M. Hiroi, N. Kobayashi, T. Suzuki and T. Fukase  
Phys. Rev. B, **52** (1995) R735-R738.
38. Ultrasonic Studies of Anisotropic Flux Pinning in La<sub>1.85</sub>Sr<sub>0.15</sub>CuO<sub>4</sub> under High Magnetic Fields  
T. Fukase, M. Kamata, T. Hanaguri, T. Sasaki, T. Suzuki, T. Goto, I. Tanaka and H. Kojima  
Physica B, **216** (1996) 274-276.
39. Cu/Tl-NMR Study on the Impurity Effect for Tl-Based High-T<sub>c</sub> Cuprate in the Over-Doped Region  
T. Goto, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
Physica C, **263** (1996) 253-256.
40. Ultrasonic and La-NMR Study on Structural Phase Transitions and Antiferromagnetic Ordering in La<sub>2-x-y</sub>Ba<sub>x</sub>Ce<sub>y</sub>Cu<sub>1-z</sub>Zn<sub>z</sub>O<sub>4</sub> (x~1/8)  
K. Seki, T. Goto and T. Fukase  
Physica C, **263** (1996) 290-293.
41. NMR Study on Magnetic Phase Transition in Electron-Doped Cuprate (La<sub>1-y</sub>Yy)<sub>2-x</sub>Ce<sub>x</sub>CuO<sub>4</sub> with T'-Type Structure  
T. Goto, K. Chiba, M. Fukunaga and T. Fukase  
Physica C, **263** (1996) 355-358.
42. Tilt Angle Effect of Intrinsic Flux Pinning in a Single Crystal of La<sub>1.85</sub>Sr<sub>0.15</sub>CuO<sub>4</sub>  
T. Fukase, M. Kamata, K. Ishizuka, T. Suzuki, T. Goto and T. Sasaki  
Physica C, **263** (1996) 420-423.



43. Anisotropy of the Flux Pinning and Elastic Anomalies under High Magnetic Fields in  $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$   
T. Fukase, T. Hanaguri, M. Kamata, K. Ishizuka, T. Suzuki, T. Goto and T. Sasaki  
Sci. Rep. Res. Insts. Tohoku Univ., **A-42** (1996) 327-331.
44. NMR Study on La and Tl-Based High- $T_c$  Cuprates  
T. Goto, K. Seki, K. Chiba, K. Miyagawa, S. Kazama, M. Fukunaga, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
Sci. Rep. Res. Insts. Tohoku Univ., **A-42** (1996) 339-349.
45. Structural Phase Transition at Low-Temperature in  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  around  $x=0.12$  under Magnetic Fields  
T. Suzuki, K. Chiba, T. Goto and T. Fukase  
Czech. J. Phys., **46** (1996) Suppl. S3 1237-1238.
46. Cu/Tl-NMR Study on the Non-Magnetic Impurity Effect in Tl-Based High- $T_c$  Cuprate in  $\text{TlBa}_2\text{CaCu}_2\text{O}_{7-\delta}$  (Tl1212)  
T. Goto, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
Czech J. Phys., **46** (1996) Suppl. S4 2173-2174.
47. Cu-NMR Study on High- $T_c$  Cuprate  $\text{La}_{1.89}\text{Ca}_{1.11}\text{Cu}_2\text{O}_{6+\delta}$  (La2126)  
T. Goto, T. Watanabe, K. Kinoshita, A. Matsuda, M. Sera and T. Fukase  
J. Low Temp. Phys., **105** (1996) 401-406.
48.  $^{63/65}\text{Cu}/^{203/205}\text{Tl}$ -NMR Study on the Antiferromagnetic Phase of Tl-Based High- $T_c$  Oxide  $\text{TlBa}_2\text{YCu}_2\text{O}_7$   
T. Goto, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
Phys. Rev. B, **54** (1996) 3562-3570.
49. Cu-NMR Study on Bilayer Type High- $T_c$  Cuprate  $\text{La}_{1.89}\text{Ca}_{1.11}\text{Cu}_2\text{O}_{6+\delta}$  (La2126)  
T. Goto, T. Watanabe, K. Kinoshita, A. Matsuda, M. Sera, S. Sakatsume and T. Fukase  
J. Phys. Soc. Jpn., **65** (1996) 2768-2771.
50. Cu-NMR Study on High- $T_c$  Cuprate  $\text{La}_{1.89}\text{Ca}_{1.11}\text{Cu}_2\text{O}_{6+\delta}$  (La2126)  
T. Goto, T. Watanabe, K. Kinoshita, A. Matsuda, M. Sera and T. Fukase  
J. Low Temp. Phys., **105** (1996) 401-406.
51. Thermal Conductivity and Phonon Scattering Mechanism in  $\text{La}_{2-x}\text{M}_x\text{CuO}_4$   
H. Fujishiro, M. Ikebe, M. Yagi, K. Nakasato, Y. Shibazaki and T. Fukase  
J. Low Temp. Phys., **105** (1996) 981-986.
52. Cu/Tl-NMR Study on the Non-Magnetic Impurity Effect in Tl-Based High- $T_c$  Cuprate in  $\text{TlBa}_2\text{CaCu}_2\text{O}_{7-\delta}$  (Tl1212)  
T. Goto, S. Nakajima, M. Kikuchi, Y. Syono and T. Fukase  
J. Phys. Soc. Jpn., **65** (1996) 3666-3671.
53. Effect of Annealing on Thermal and Electrical Transport in  $\text{Nd}_{1.85}\text{Ce}_{0.15}\text{CuO}_4$   
M. Ikebe, H. Fujishiro M. Yagi and T. Fukase  
Superlattices Microstruct., **21** (1997) 357-362.
54.  $^{139}\text{La}$ -NMR Study on La-Based High- $T_c$  Cuprates  $\text{La}_{2-x}\text{M}_x\text{CuO}_4$  ( $\text{M}=\text{Sr}, \text{Ba}$ ) around  $x=0.115$  under High Magnetic Field  
T. Goto, K. Chiba, M. Mori, T. Suzuki, K. Seki and T. Fukase  
J. Phys. Soc. Jpn., **66** (1997) 2870-2874.

55. <sup>47/49</sup>Ti and <sup>139</sup>La NMR Studies on Mott Transition in  $\text{La}_{1-x}\text{Sr}_x\text{TiO}_3$   
Y. Furukawa, I. Okamura, K. Kumagai, T. Goto, T. Fukase, Y. Taguchi and Y. Tokura  
*Physica C*, **282-287** (1997) 1103-1104.
56. Observation of Modulated Magnetic Long-Range Order in  $\text{La}_{1.88}\text{Sr}_{0.12}\text{CuO}_4$   
T. Suzuki, T. Goto, K. Chiba, T. Shinoda, T. Fukase, H. Kimura, K. Yamada, M. Ohashi and Y. Yamaguchi  
*Phys. Rev. B*, **57** (1998) R3229-R3232.
57. Field Induced Spin Reorientation and Low-Temperature Structural Phase Transition in  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$   
T. Goto, T. Suzuki, K. Chiba, T. Shinoda, M. Mori and T. Fukase  
*Physika B*, **246-247** (1998) 572-575.
58. Thermal Transport in 90K- and 60K-Phase  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  High- $T_c$  Oxides  
M. Ikebe, H. Fujishiro, K. Nakasato, T. Mikami, T. Naito and T. Fukase  
*Phys. Status. Solidi.*, (B) **209** (1998) 413-426.
59. Magnetization Properties for  $\text{YBa}_2\text{Cu}_3\text{O}_7$  Bulk Fabricated by Seed Process in High Magnetic Fields  
K. Watanabe, S. Awaji, A. Kuramochi, T. Fukase, K. Kimura and M. Motokawa  
Proceedings of the 11th International Symposium on Superconductivity, (ISS98), *Advance in Superconductivity XI*, p. 653-656.
60. Ultrasonic and Phonon Thermal Transport Studies on  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  Oxide Superconductor  
H. Fujishiro, M. Ikebe and T. Fukase  
*Adv. Sci. Tech.*, **23** (1999) 437-444.
61. Conventional Superconductor-Like Behavior of Superconducting Transition of  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  around  $x=0.12$  in Magnetic Fields  
T. Suzuki, Y. Oshima, K. Chiba, T. Fukase, T. Goto, H. Kimura and K. Yamada  
*Phys. Rev. B*, **60** (1999) 10500-10503.
62. Magnetic Phase Transition and Electronic Anomalies in  $\text{La}_{1.96-x}\text{Y}_{0.04}\text{Sr}_x\text{CuO}_4$  around  $x \sim 1/8$   
T. Fukase, H. Geka, T. Goto, K. Chiba and T. Suzuki  
*J. Low Temp. Phys.*, **117** (1999) 491-495.
63. <sup>139</sup>La-NMR Study of Spin-Flop and Spin Structure in  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  ( $x \sim 1/8$ )  
K. Chiba, T. Goto, M. Mori, T. Suzuki, K. Seki and T. Fukase  
*J. Low Temp. Phys.*, **117** (1999) 479-483.
64. Tl-NMR Study on High- $T_c$  Oxides  $\text{TlM}_2\text{CaCu}_2\text{O}_{7-\delta}$  ( $M=\text{Ba, Sr}$ ) Spin-Gap in Underdoped and Overdoped Systems  
T. Goto, S. Nakajima, E. Ohshima, M. Kikuchi, Y. Syono and T. Fukase  
*J. Low Temp. Phys.*, **117** (1999) 467-471.

65. Elastic Anomalies Induced by Spin-Flop in  $\text{La}_{1.88}\text{Sr}_{0.12}\text{CuO}_4$   
T. Fukase, T. Shinoda, Y. Oshima, T. Suzuki, K. Chiba, T. Goto and K. Yamada  
*Physica B*, **284-288** (2000) 483-484.
66. Anomalous Change of the Sound Velocity in  $\text{La}_2\text{CuO}_{4+\delta}$   
T. Suzuki, T. Fukase, S. Wakimoto and K. Yamada  
*Physica B*, **284-288** (2000) 479-480.
67. High-Field Cu/La-NMR Study on High- $T_c$  Cuprate  $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$  ( $x=0.125$ )  
T. Goto, M. Mori, K. Chiba, T. Suzuki and T. Fukase  
*Physica B*, **284-288** (2000) 657-658.
68. Enhancement of Static Antiferromagnetic Correlations by Magnetic Field in a Superconductor  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  with  $x=0.12$   
S. Katano, M. Sato, K. Yamada, T. Suzuki and T. Fukase  
*Phys. Rev. B* **62** (2000) R14677-R14680.

#### G. 有機超伝導体の研究

(Studies on organic superconductors)

1. The Fermi Surface in the Organic Superconductor  $\beta$ -(BEDT-TTF) $_2$ IBr $_2$   
T. Sasaki, N. Toyota, T. Fukase, K. Murata, M. Tokumoto and H. Anzai  
Proceedings of the ISSP International Symposium, (1990) p. 191-194.
2. Fermi Surfaces and Crystal Structure of a New Organic Conductor  $\alpha$ -(BEDT-TTF) $_2$  KHg(SeCN) $_4$   
T. Sasaki, H. Ozawa, H. Mori, S. Tanaka, T. Fukase and N. Toyota  
*J. Phys. Soc. Jpn.*, **65** (1996) 213-220.
3. Reconsideration of the Magnetic Phase Diagram in the Organic Conductor  $\alpha$ -(BEDT-TTF) $_2$  KHg(SCN) $_4$   
T. Sasaki, T. Fukase and N. Toyota  
*Physica B*, **216** (1996) 366-368.
4. Hall Effect in the Mixed State of the Organic Superconductor  $\kappa$ -(BEDT-TTF) $_2$  Cu(NCS) $_2$   
A. Matsuyama, T. Sasaki, T. Fukase and N. Toyota  
*Physica C*, **263** (1996) 534-537.
5. Resistive Jump and Hysteresis in the Vortex State of the Organic Superconductor  $\kappa$ -(BEDT-TTF) $_2$  Cu(NCS) $_2$   
T. Sasaki, A. Matsuyama and T. Fukase  
*Physica C*, **263** (1996) 538-543.
6. Low Temperature Ground States and Field-Induce Phase Transitions in  $\alpha$ -(BEDT-TTF) $_2$  MHg(XCN) $_4$  (M=K, Tl, Rb, NH $_4$ ; X=S, Se)  
N. Toyota, T. Sasaki, S. Endo, Y. Watanabe, H. Ozawa and T. Fukase  
*Sci. Rep. Res. Insts. Tohoku Univ.*, **A-42** (1996) 271-274.

7. Ultrasonic Investigations on Some Highly Correlated Electron Systems in the Magnetic Field  
M. Yoshizawa, N. Yoshimoto, D. H. Yoon, T. Sasaki, N. Toyota, H. Iwasaki, N. Kobayashi and T. Fukase  
Sci. Rep. Res. Insts. Tohoku Univ., **A-42** (1996) 321-326.
8. Hall Effect in the Quasi Two-Dimensional Organic Superconductor  $\kappa$ -(BEDT-TTF)<sub>2</sub>Cu(NCS)<sub>2</sub>  
T. Sasaki, A. Matsuyama, T. Fukase and N. Toyota  
Sci. Rep. Res. Insts. Tohoku Univ., **A-42** (1996) 397-402.
9. Anomalous Magnetization and Dimensional Crossover of the Vortex State in the Organic Superconductor  $\kappa$ -(BEDT-TTF)<sub>2</sub>Cu(NCS)<sub>2</sub>  
T. Nishizaki, T. Sasaki, T. Fukase and N. Kobayashi  
Phys. Rev. B, **54** (1996) R3760-3763.
10. Fermi Surfaces Studies of  $\alpha$ -Phase Organic Metals and Superconductors  
J. Wosnitza, G. Goll, D. Beckmann, E. Steep, N.D. Kushch, T. Sasaki and T. Fukase  
J. Low Temp. Phys., **105** (1996) 1691-1696.
11. Anomalous Hall Conductivity in the Vortex State of the Organic Superconductor  $\kappa$ -(BEDT-TTF)<sub>2</sub>Cu(NCS)<sub>2</sub>  
T. Sasaki, A. Matsuyama, T. Fukase and N. Toyota  
J. Low Temp. Phys., **105** (1996) 1739-1744.
12. Interplay of the Spin Density Wave State and Magnetic Field in the Organic Conductor  $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SCN)<sub>4</sub>  
T. Sasaki, A.G. Lebed, T. Fukase and N. Toyota  
Phys. Rev. B, **54** (1996) 12969-12978.
13. Cyclotron Resonance Measurements of Organic Conductor  $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SeCN)<sub>4</sub>  
H. Ohta, Y. Yamamoto, K. Akioka, M. Motokawa, T. Sasaki and T. Fukase  
Synth. Met., **86** (1997) 2011-2012.
14. Magnetic Field Response of the Spin Density Wave in  $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SCN)<sub>4</sub>  
T. Sasaki, A.G. Lebed, T. Fukase and N. Toyota  
Synth. Met., **86** (1997) 2063-2064.
15. Temperature Dependence of Lattice Parameters of  $\alpha$ -(BEDT-TTF)<sub>2</sub>MHg(XCN)<sub>4</sub> (M=K, Tl, Rb, NH<sub>4</sub> and X=S, Se)  
S. Endo, Y. Watanabe, T. Sasaki, T. Fukase and N. Toyota  
Synth. Met., **86** (1997) 2013-2014.
16. Temperature Dependence of the Electronic Structure of  $\alpha$ -(BEDT-TTF)<sub>2</sub>MHg(SCN)<sub>4</sub> (M=NH<sub>4</sub>, K, Rb)  
S. Ono, T. Mori, S. Endo, N. Toyota, T. Sasaki, Y. Watanabe and T. Fukase  
Physica C, **290** (1997) 49-56.
17. Dimensional Crossover of Vortex State and Peak Effect in Magnetization in Organic Superconductors  
T. Nishizaki, T. Sasaki, T. Fukase and N. Kobayashi  
Synth. Met., **85** (1997) 1497-1498.

18. High-Field Phase Transitions and Fermi Surfaces in the Organic Conductor  $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SCN)<sub>4</sub>: Influence of the Magnetic Breakdown on Evaluation of the Effective Mass and the Scattering Time  
T. Sasaki, W. Biberacher and T. Fukase  
Physica B, **246-247** (1998) 303-306.
19. Quantum Liquid of Voltices in the Quasi-Two-Dimensional Organic Superconductor  $\kappa$ -(BEDT-TTF)<sub>2</sub>Cu(NCS)<sub>2</sub>  
T. Sasaki, W. Biberacher, K. Neumaier, W. Hehn, K. Andres and T. Fukase  
Phys. Rev. B, **57** (1998) 10889-10892.
20. <sup>2</sup>D-NMR in  $\alpha$ -(h<sub>8</sub>-BEDT-TTF)<sub>2</sub>ND<sub>4</sub>Hg(SCN)<sub>4</sub>  
S. Endo, T. Goto, T. Fukase, H. Uozaki, K. Okamoto and N. Toyota  
Phys. Rev. B, **57** (1998) 14422-14427.
21. <sup>2</sup>D- and <sup>1</sup>H-NMR in  $\alpha$ -(h<sub>8</sub>-ET)<sub>2</sub>ND<sub>4</sub>Hg(SCN)<sub>4</sub> and  $\alpha$ -(d<sub>8</sub>-ET)<sub>2</sub>NH<sub>4</sub>Hg(SCN)<sub>4</sub>  
S. Endo, T. Goto, T. Fukase, H. Uozaki, K. Okamoto, M. Yamaguchi and N. Toyota  
Synth. Met., **103** (1999) 2073-2074.
22. Lattice Parameters of  $\alpha$ -(h<sub>8</sub>-ET)<sub>2</sub>NH<sub>4</sub>Hg(SCN)<sub>4</sub> and  $\alpha$ -(h<sub>8</sub>-ET)<sub>2</sub>ND<sub>4</sub>Hg(SCN)<sub>4</sub>  
S. Endo, Y. Watanabe, H. Uozaki, K. Okamoto, M. Yamaguchi, T. Goto, T. Fukase and N. Toyota  
Synth. Met., **103** (1999) 2075.
23. Seebeck and Nernst Effects in the Mixed State of  $\kappa$ -(BEDT-TTF)<sub>2</sub>Cu(NCS)<sub>2</sub>  
T. Sasaki, H. Ozawa, M. Koakutsu and T. Fukase  
Synth. Met., **103** (1999) 1444-1445.
24. Spin-Splitting-Zero Conditions in Magnetic Phases of  $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SCN)<sub>4</sub>  
T. Sasaki and T. Fukase  
Synth. Met., **103** (1999) 1946.
25. Magnetic Torque Studies of the Organic Conductors  $\alpha$ -(BEDT-TTF)<sub>2</sub>MHg(XCN)<sub>4</sub> [M=K, X=S, Se]  
T. Sasaki and T. Fukase  
Proc. of the Physical Phenomena at High Magnetic Fields-III, ed. by Z. Fisk, et al., (Tallahassee, 1998) World Sci. Pub., p. 265-268.
26. Spin Splitting at the High Magnetic Field Phase Transition of the Organic Conductor  $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SCN)<sub>4</sub>  
T. Sasaki and T. Fukase  
Phys. Rev. B, **59** (1999) 13872-13877.
27. First Order Vortex Phase Transition in the Organic Superconductor  $\kappa$ -(BEDT-TTF)<sub>2</sub>Cu(NCS)<sub>2</sub>  
M. Inada, T. Sasaki, T. Nishizaki, N. Kobayashi, S. Yamada and T. Fukase  
J. Low Temp. Phys., **117** (1999) 1423-1427.
28. <sup>1</sup>H-NMR of an Organic  $\pi$ -d metal  $\kappa$ -(BEDT-TSF)<sub>2</sub>FeCl<sub>4</sub>  
S. Endo, T. Goto, H. Uozaki, T. Fukase, K. Ueda, T. Sugimoto and N. Toyota  
Physica B., **281&282** (2000) 682-683.

29.  $^2\text{H}$ -NMR of an Organic  $\pi$ -d Metal  $\kappa$ -(BEDT-TSF) $_2\text{FeCl}_4$   
S. Endo, T. Goto, H. Uozaki, T. Fukase, K. Ueda, T. Sugimoto and N. Toyota  
*Physica B* **281&282** (2000) 682-683.

#### H. 超伝導の応用に関する研究

(Studies on applications of superconducting materials)

1. Role of Insulations in a Superconducting Magnet  
T. Fukuroi and T. Fukase  
*Sci. Rep. Res. Insts. Tohoku Univ.*, **A15** (1963) 297-303.
2. Magnetic Flux Jumps in Superconducting 3Nb-Zr Alloy Wires  
T. Fukuroi and T. Fukase  
*Sci. Rep. Res. Insts. Tohoku Univ.*, **A16** (1964) 132-138.
3. Liquid Helium-Free Superconducting Magnets and Their Applications  
K. Watanabe, S. Awaji, T. Fukase, Y. Yamada, J. Sakuraba, F. Hata, C.K. Chong, T. Hasebe and M. Ishihara  
*Proc. 15th Int. Cryogenic Engineering Conf.*, (Genova 1994), *Cryogenics* **34** (1994) 639-642.
4. Critical Current Research Activities for High- $T_c$  Superconductors at High Field Laboratory for Superconducting Materials, Tohoku University.  
K. Watanabe, S. Awaji and T. Fukase  
*Synth. Met.*, **71** (1995) 1585-1586.
5. Liquid Helium-Free Large Bore Superconducting Magnet  
K. Watanabe, S. Awaji, T. Fukase, K. Watazawa, J. Sakuraba, T. Hasebe, M. Ishihara and Y. Yamada  
*Proc. 9th US-Japan Workshop on High-Field Superconducting Materials, Wires and Conductors and Standardized Procedures for High-Field Superconducting Wires Testing*, (Kyoto, 1995) p. 99-102.
6. A Cryocooler Cooled 6 T NbTi Superconducting Magnet with Room Temperature Bore of 220 mm  
K. Watazawa, J. Sakuraba, F. Hata, C. K. Chong, Y. Yamada, K. Watanabe, S. Awaji and T. Fukase  
*Proc. 14th Int. Conf. on Magnet Technology*, (Finland, 1995), *IEEE Transactions on Magnetism*, **32** (1996) p. 2594-2597.
7. Highly Strengthened Superconducting Magnet for a 40 T Compact Hybrid Magnet  
K. Watanabe, S. Awaji, N. Kobayashi, T. Fukase, M. Motokawa, K. Koyanagi, Y. Sumiyoshi, M. Urata, M. Tezuka, S. Nakayama and S. Murase  
*Sci. Rep. Res. Insts. Tohoku Univ.*, **A-42** (1996) 403-406.

8. A Design of a Compact Superconducting Magnet for a 40 T Hybrid Magnet  
K. Koyanagi, S. Nomura, M. Urata, M. Arata, Y. Sumiyoshi, K. Watanabe,  
S. Awaji, N. Kobayashi, T. Fukase and M. Motokawa  
IEEE Trans. Appl. Supercond., **7**[2] (1997) 431-436.
9. Melt Textured Process for YBCO in High Magnetic Fields  
S. Awaji, K. Watanabe, M. Motokawa, A. Kuramochi, T. Fukase and K.  
Kimura  
IEEE Trans. Appl. Supercond., **9** (1999) 2014-2017.
10. Melt-Growth Process of  $\text{YBa}_2\text{Cu}_3\text{O}_7$  Bulk in High Magnetic Fields  
S. Awaji, K. Watanabe, M. Motokawa, A. Kuramochi, T. Fukase and K.  
Kimura  
Proc. 3 rd Int. Symp. on Electromagnetic Processing of Materials, (Nagoya,  
2000)

#### I. マンガン酸化物の電子物性に関する研究

(studies on electronic properties of manganese perovskites)

1. Sound Velocity Anomaly Associated with Polaron Ordering in  $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$   
H. Fujishiro, M. Ikebe, Y. Konno and T. Fukase  
J. Phys. Soc. Jpn., **66** (1997) 3703-3705.
2. Charge Ordering and Sound Velocity Anomaly in  $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$  ( $x \geq 0.5$ )  
H. Fujishiro, T. Fukase and M. Ikebe  
J. Phys. Soc. Jpn., **67** (1998) 2582-2585.
3. Sound Velocity Anomaly at around  $x \sim 1/8$  in  $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$   
H. Fujishiro, T. Fukase, M. Ikebe and T. Kikuchi  
J. Phys. Soc. Jpn., **68** (1999) 1469-1472.

#### J. 低温・強磁場実験装置と技術に関する研究

(Studies on low-temperature and/or high-magnetic facilities and experimental techniques)

1. Thermometric Properties of Commercial Switching Diodes  
K. Noto, T. Murata, T. Fukase, M. Naka and K. Arikawa  
Jpn. J. Appl. Phys., **16** (1977) 665-666.
2. Design and Performance of Remote Controlled  $^3\text{He}$  Refrigerator in a Hybrid  
Magnet  
Y. Koike, T. Fukase, N. Kobayashi, S. Goto and H. Hashiura  
Sci. Rep. Res. Insts. Tohoku Univ., **A33** (1986) 360-368.

3. Development of a 40 T Compact Hybrid Magnet  
K. Watanabe, S. Awaji, N. Kobayashi, S. Miura, T. Fukase, M. Urata, K. Koyanagi, M. Tezuka and S. Hanai  
Proc. 14th Int. Conf. on Magnet Technology, (Finland, 1995), *IEEE Transactions on Magnetics*, **32** (1996) p. 2470-2473.
4. Water-Cooled Magnet for a 40 T Compact Hybrid Magnet  
S. Miura, K. Watanabe, S. Awaji, M. Motokawa, N. Kobayashi and T. Fukase  
Sci. Rep. Res. Insts. Tohoku Univ., **A-42** (1996) 407-410.



